

Date: Thursday, 5/10/2007 2:35:47 PM
 User: Kim Johnston

Process Sheet

Customer	CU-DAR001 Dart Helicopters Services			Drawing Name	OUTER AFT SADDLE	
Job Number	32302			Part Number	D5955	
Estimate Number	11080			Drawing Number	D5955 REV B	
P.O. Number	N/A			Project Number	N/A	
This Issue	5/10/2007	S.O. No.	N/A	Drawing Revision	B	
Prsht Rev.	NC	Type	MACHINED PARTS	Material	N/A	
First Issue	N/A			Due Date	6/5/2007	
Previous Run	31530			Qty:	14	Um: Each
Written By						
Checked & Approved By	<i>107.05.10</i>					
Comment	Est Rev:E	Re-Format	05-11-29	JLM		
	Est Rev:F	ecn826	06.12.06	ec		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	D6101013	Saddle billet
Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s) D6101-013 (7075-T7351) Size 2.50" x 10.10" X 8.25" (Grain along 10.10") Batch: B25357		
<i>DKL/S 07/06/12 14</i>		
2.0	HAAS3	HAAS CNC VERTICAL MACHINING #3
<i>DKL/S 07/06/12 14</i>		

Comment: HAAS CNC VERTICAL MACHINING #3

1-Machine as per folio D5955, Ensure Batch Number is entered

2-Machine Keyway

3-Deburr & Tumble

3.0	QC1	INSPECT ALL DIM TO DIM SHEET
		<i>DKL/S 07/06/15 14</i>

Comment: INSPECT ALL DIM TO DIM SHEET

4.0	QC8	SECOND CHECK
		<i>DKL/S 07/06/15 14</i>

Comment: SECOND CHECK

5.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
		<i>DKL/S 07/06/15 14</i>

Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: Date: 07/06/19
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06.06.13	I Z.O	Set up on second J-se was off (X) by 0.015" 1.625" bar → 1.647" 2.000" bar → 2.017" Re Do set up	<input checked="" type="checkbox"/>	Scrap and Replace per David S. email.	<i>✓ML</i> 07/06/14	<input checked="" type="checkbox"/> 07.06.13	<input checked="" type="checkbox"/> 07.06.13	<input checked="" type="checkbox"/> 07.06.13

NOTE: Date & initial all entries

Date: Thursday, 5/10/2007 2:35:47 PM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: OUTER AFT SADDLE

Job Number: 32302

Part Number: D5955

Job Number:



Seq. #: Machine Or Operation:

Description :

6.0 POWDER COATING

POWDER COATING



m 104144



(14)

Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

7.0 QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



SL



07/06/19 (14)

Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

8.0 PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

07/06/19 (14)

9.0 QC21

FINAL INSPECTION/W/O RELEASE



(14)

Comment: FINAL INSPECTION/W/O RELEASE

FD070619.

Job Completion



u 07.06.19

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B				Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	32302
Description: Outer Aft Saddle	Part Number:	D5955
Inspection Dwg: D5955	Rev: B	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.438	0.443		0.440	0.440	0.440	0.440		
B	1.745	1.755		1.745	1.746	1.747	1.750		
C	5.245	5.255		5.252	5.251	5.251	5.251		
D	6.995	7.005		7.001	7.001	6.998	7.001		
E	5.745	5.755		5.748	5.748	5.748	5.749		
F	4.745	4.755		4.750	4.750	4.751	4.750		
G	0.313	0.318	$.316 \pm .006$	0.318	0.316	0.316	0.316		
H	1.522	1.532		1.527	1.527	1.527	1.530		
I	3.048	3.058		3.053	3.053	3.054	3.055		
J	4.575	4.585		4.580	4.580	4.579	4.582		
K	0.313	0.318	$.316 \pm .006$	0.316	0.316	0.316	0.316		
L	0.495	0.505		0.499	0.499	0.499	0.499		
M	0.490	0.510		0.502	0.501	0.499	0.498		
N	1.865	1.885		1.880	1.880	1.884	1.885		
O	7.990	8.010		7.997	7.999	8.001	7.999		
P	2.240	2.260		2.255	2.255	2.254	2.253		
Q	0.307	0.312		0.307	0.308	0.308	0.310		
R	0.760	0.765		0.765	0.765	0.765	0.765		
S	0.490	0.510		0.501	0.501	0.498	0.500		
T	1.625	1.645		1.638	1.648	1.630	1.626		
U	2.000	2.020		2.004	2.019	2.002	2.000		
V	0.023	0.043		0.033	0.033	0.033	0.033		
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

Measured by:	CMK	/	EP	Audited by:	SA
Date:	07/06/11	/	07/06/13	Date:	07/06/13

Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686	KJ/RF	
C	06.11.20	Added dimension V	KJ/JLM	
D	06.12.06	Dimensions L,N,P revised	KJ/EC	

DART AEROSPACE LTD	Work Order:	32302
Description: Outer Aft Saddle	Part Number:	D5955
Inspection Dwg: D5955	Rev: B	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4 28	By	Date
A	0.438	0.443		0.440	0.440	0.440	0.440		
B	1.745	1.755		1.750	1.748	1.745	1.745		
C	5.245	5.255		5.250	5.251	5.251	5.250		
D	6.995	7.005		6.997	6.998	6.998	6.998		
E	5.745	5.755		5.749	5.751	5.750	5.751		
F	4.745	4.755		4.749	4.751	4.750	4.750		
G	0.313	0.318	316 - 007	0.316	0.318	0.316	0.316		
H	1.522	1.532		1.525	1.527	1.525	1.524		
I	3.048	3.058		3.053	3.055	3.055	3.056		
J	4.575	4.585		4.581	4.581	4.583	4.581		
K	0.313	0.318	316 = 006	0.316	0.316	0.316	0.316		
L	0.495	0.505		0.500	0.500	0.500	0.499		
M	0.490	0.510		0.498	0.498	0.499	0.499		
N	1.865	1.885		1.882	1.882	1.882	1.882		
O	7.990	8.010		8.000	8.000	8.001	8.000		
P	2.240	2.260		2.254	2.253	2.253	2.253		
Q	0.307	0.312		0.310	0.309	0.309	0.308		
R	0.760	0.765		0.765	0.765	0.765	0.765		
S	0.490	0.510		0.493	0.497	0.494	0.494		
T	1.625	1.645		1.628	1.630	1.630	1.633		
U	2.000	2.020		2.000	2.001	2.002	2.004		
V	0.023	0.043		0.033	0.033	0.033	0.033		
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

Measured by:	CM	Audited by:	SD
Date:	07.06.13	Date:	07.06.13

Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686	KJ/RF	
C	06.11.20	Added dimension V	KJ/JLM	
D	06.12.06	Dimensions L,N,P revised	KJ/EC	

DART AEROSPACE LTD				Work Order:	32302
Description: Outer Aft Saddle				Part Number:	D5955
Inspection Dwg: D5955 Rev: B				Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	Avg		
A	0.438	0.443		0.440	0.440	0.440	0.440		
B	1.745	1.755		1.749	1.749	1.749	1.749		
C	5.245	5.255		5.256	5.249	5.249	5.249		
D	6.995	7.005		7.000	6.998	6.999	6.999		
E	5.745	5.755		5.757	5.751	5.748	5.749		
F	4.745	4.755		4.751	4.747	4.749	4.750		
G	0.313	0.318	.316 +.001 - .001	0.316	0.316	0.316	0.316		
H	1.522	1.532		1.530	1.524	1.524	1.524		
I	3.048	3.058		3.056	3.053	3.051	3.052		
J	4.575	4.585		4.583	4.580	4.580	4.579		
K	0.313	0.318	.316 +.006 - .001	0.316	0.316	0.316	0.316		
L	0.495	0.505		0.498	0.498	0.499	0.499		
M	0.490	0.510		0.498	0.498	0.498	0.503		
N	1.865	1.885		1.883	1.884	1.882	1.881		
O	7.990	8.010	OE	7.999	7.997	7.997	7.998		
P	2.240	2.260		2.253	2.255	2.252	2.251		
Q	0.304	0.312	.306 +.006 - .001	0.308	0.310	0.309	0.310		
R	0.760	0.765		0.765	0.765	0.765	0.765		
S	0.490	0.510		0.496	0.500	0.505	0.504		
T	1.625	1.645		1.634	1.637	1.638	1.635		
U	2.000	2.020		2.004	2.007	2.007	2.007		
V	0.023	0.043		0.033	0.033	0.033	0.033		
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

Measured by:	EJ / Erm	Audited by:	JK
Date:	07/06/15	Date:	07.06.15

Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686	KJ/RF	
C	06.11.20	Added dimension V	KJ/JLM	
D	06.12.06	Dimensions L,N,P revised	KJ/EC	

DART AEROSPACE LTD	Work Order:	32302
Description: Outer Aft Saddle	Part Number:	D5955
Inspection Dwg: D5955	Rev: B	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

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Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.438	0.443		0.439	0.439				
B	1.745	1.755		1.749	1.749				
C	5.245	5.255		5.256	5.250				
D	6.995	7.005		6.999	6.999				
E	5.745	5.755		5.749	5.748				
F	4.745	4.755		4.749	4.750				
G	0.313	0.318	3/16 +0.005 -0.01	0.319	0.320				
H	1.522	1.532		1.526	1.524				
I	3.048	3.058		3.050	3.057				
J	4.575	4.585		4.579	4.579				
K	0.313	0.318	3/16 ± 0.006	0.320	0.320				
L	0.495	0.505		0.499	0.499				
M	0.490	0.510		0.499	0.502				
N	1.865	1.885		1.884	1.884				
O	7.990	8.010		7.997	7.997				
P	2.240	2.260		2.256	2.256				
Q	0.307	0.312		0.310	0.309				
R	0.760	0.765		0.761	0.761				
S	0.490	0.510		0.505	0.506				
T	1.625	1.645		1.635	1.635				
U	2.000	2.020		2.006	2.007				
V	0.023	0.043							
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

Measured by:	<i>Arnold</i>	Audited by:	<i>SD</i>
Date:	07/06/15	Date:	07.06.17

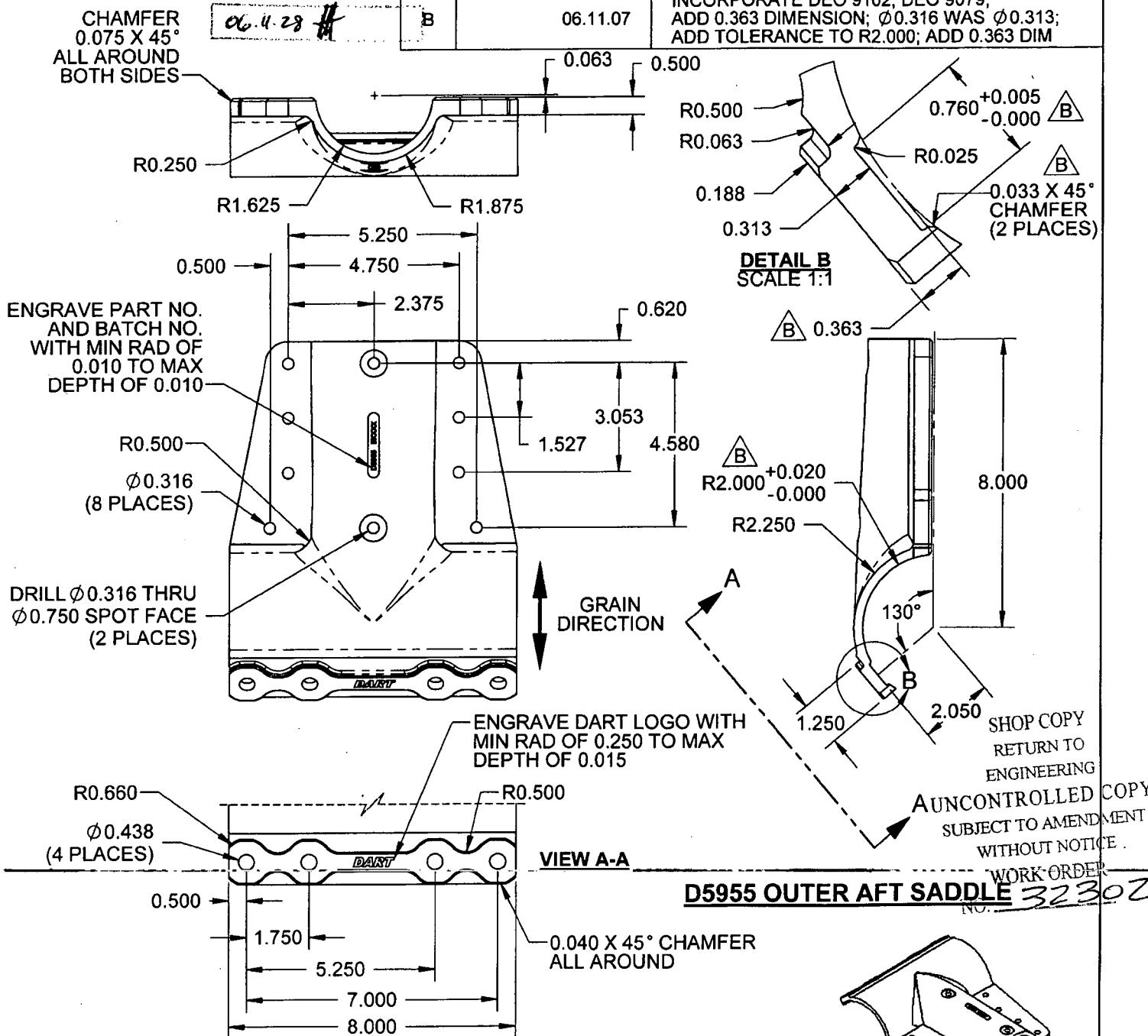
Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686	KJ/RF	
C	06.11.20	Added dimension V	KJ/JLM	
D	06.12.06	Dimensions L,N,P revised	KJ/EC	

DART

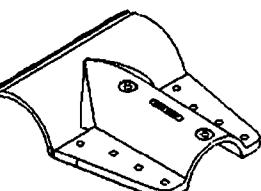
DESIGN BW	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED <i>CE</i>	APPROVED <i>AK</i>	DRAWING NO. D5955
DATE 06.11.07		REV. B SHEET 1 OF 1 TITLE OUTER AFT SADDLE SCALE 1:4

P/N 100-00000

06.11.07

**NOTES:**

- 1) MATERIAL: ALUMINUM 7075-T7351 PER QQ-A-250/12
(MAKE FROM D6101-013 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.010 TO 0.020



ISOMETRIC VIEW
SCALE 1:8

Marc Bellavance

From: David Shepherd [dshepherd@dartaero.com]
Sent: Wednesday, June 13, 2007 3:27 PM
To: 'Marc Bellavance'
Subject: RE: D5955 Saddle (ref. D205-594 Hi-Hi Landing Gear)

Marc,

As we discussed, I am concerned about how this saddle will be pulled in and pre-stressed when they tighten up the saddle bolts.

0.044" on diameter is a lot. I would rather just scrap the part.

David

From: Marc Bellavance [mailto:mbellavance@dartaero.com]
Sent: Tuesday, June 12, 2007 3:04 PM
To: Shepherd, David
Subject: D5955 Saddle (ref. D205-594 Hi-Hi Landing Gear)

David,

Eric Downing came to see me about a D5955 Rev. B saddle machined as shown (see attached).

I am not so much concerned over the fact that the bores are slightly above maximum tolerance but I am concerned about the decreased wall thickness of the bore at the cuff location: R1.625" machined to R1.647", which leaves a wall thickness of 0.235" instead of 0.250". With the help of Mathcad, I have run the values of the non-conforming saddle to compare the margins of safety with the results presented in SR-D205-594-2. Table 1 shows the margins of safety that are affected:

Table 1

Analysis	Margin of Safety	
	Result of Calculation	SR-D205-594-2 Rev. A
Bearing Stress on Saddle Near Saddle-to-Crosstube Fasteners	2.72	2.91
Shear Tear-out in Saddle-to-Crosstube Bolt Area	3.74	3.98
Saddle Shear Stress	54.88	56.77

As of now, Eric D. is setting up to complete machining of the Saddles and he would like to know whether he should scrap the part or complete machining.

I believe the deviation is acceptable but I wanted to run this by you prior signing it off. This is still fairly new to me and I want to make sure I'm not cutting any corners.

Thanks!

Marc

No virus found in this incoming message.

Checked by AVG Free Edition.

Version: 7.5.472 / Virus Database: 269.8.14/845 - Release Date: 6/12/2007 6:39 AM

No virus found in this outgoing message.

Checked by AVG Free Edition.

Version: 7.5.472 / Virus Database: 269.8.15/848 - Release Date: 6/13/2007 12:50 PM

6/13/2007